

1-3 Find two coterminal angles, one positive and one negative, for each angle.

4-6 Find the complement and supplement for each angle (if possible).

1. 135°

2. $\frac{4\pi}{3}$

3. $\frac{21\pi}{4}$

4. $\frac{2\pi}{5}$

5. 150°

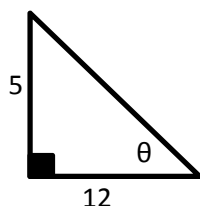
6. $\frac{2\pi}{3}$

7. A pendulum swings through an angle of 20° each second. If the pendulum is 40 inches long, how far does its tip move each second?

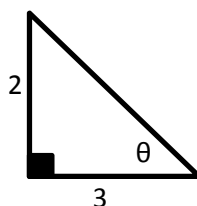
8. A neighborhood carnival has a Ferris wheel whose radius is 30 feet. You measure the time it takes for one revolution to be 70 seconds. What is the speed on this Ferris wheel in miles per hour?

Find the six trig. functions for each problem.

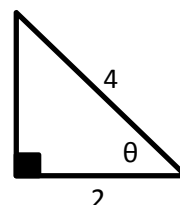
9.



10.



11.



Find the remaining trig. functions using identities or definitions.

12. $\csc\theta = 5$

13. $\tan\theta = \frac{1}{2}$

14. $\sin\theta = \frac{\sqrt{3}}{4}$

Evaluate without a calculator. For angles, give the answer in both radians and degrees.

15. $\cot 30^\circ$

16. $\csc 45^\circ$

17. $\cos\theta = \frac{1}{2}$

18. $\tan\theta = \frac{\sqrt{3}}{3}$

Evaluate with a calculator. For angles, give the answer in both radians and degrees.

19. $\tan 23^\circ$

20. $\sin 50^\circ$

21. $\sec \theta = 1.2$

22. $\cos \theta = .46$

23-25 find the exact value of each of the six trig functions of θ , if the point is on the terminal side of the angle.

26-28 find the exact value of each of the remaining trig functions of θ .

23. $(-3, 4)$

24. $(5, 12)$

25. $(2, -3)$

26. $\sin \theta = -\frac{12}{13}$, θ in Quadrant 4

27. $\cot \theta = \frac{4}{5}$, θ in Quadrant 3

28. $\tan \theta = \frac{3}{4}$, $\sin \theta > 0$

29-31, find all six trig functions with the given specifications.

29. If $\tan \theta = 3$, find $\tan(\theta + \pi)$

30. If $\cos \theta = 0.4$, find $\cos(2\pi - \theta)$

31. $\sin \theta = \frac{\sqrt{3}}{2}$, find $\sin(\pi - \theta)$

32. From the top of the 100-ft-tall Altgelt Hall a man observes a car moving toward the building. If the angle of depression of the car changes from 22° and 46° during the period of observation, how far does the car travel?

33. The angle of depression of a buoy from the top of the Barnegat Bay Lighthouse 130 feet above the surface of the water is 6° . Find the distance from the base of the lighthouse to the buoy.